

CLAIMS

1. A fire retardant resin composition comprising a polyphenol compound and an inorganic microfine particle,
5 wherein said polyphenol compound has such a structure that aromatic units each having at least one phenolic hydroxyl group are connected to one another through an organic unit containing two or more carbon atoms, and
said inorganic microfine particle is a product of
10 hydrolysis and condensation of an alkoxide compound and/or a carboxylic acid salt compound.
2. The fire retardant resin composition according to Claim 1
15 wherein said organic unit containing two or more carbon atoms has a cyclic structure.
3. The fire retardant resin composition according to Claim 1 or 2
20 wherein said organic unit containing two or more carbon atoms has a triazine ring and/or an aromatic ring.
4. The fire retardant resin composition according to Claim 1, 2, or 3
25 wherein said alkoxide compound contains a silicon alkoxide.
5. The fire retardant resin composition according to Claim 1, 2, 3, or 4
30 wherein said inorganic microfine particle obtainable by hydrolysis and condensation of an alkoxide compound and/or a carboxylic acid salt compound is a silica having not less than 0.001 nor more than 2.0 of an integral intensity ratio A_{Q3}/A_{Q4} obtainable by splitting a peak
35 situated in the range of -120 to -80 ppm in ^{29}Si -DD/MAS-NMR

spectrometry into a Q³ silica component and a Q⁴ silica component.

6. The fire retardant resin composition according to
5 Claim 1, 2, 3, 4, or 5

wherein said inorganic microfine particle comprises a discrete spherical particle and/or aggregates thereof with its average particle diameter as aggregate being not more than 100 µm.

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7. The fire retardant resin composition according to
Claim 1, 2, 3, 4, 5, or 6

which contains a compound having at least one structure selected from the group consisting of ether bond, 15 ester bond, and nitrogen atom.

8. A method of producing a fire retardant resin composition comprising a polyphenol compound and an inorganic microfine particle,

20 which comprises a step of subjecting hydrolysis and condensation of an alkoxide compound and/or a carboxylic acid salt compound in a solution containing a polyphenol compound having such a structure that aromatic units each having at least one phenolic hydroxyl group are connected 25 to one another through an organic unit containing two or more carbon atoms.

9. A method of producing a fire retardant resin composition comprising a polyphenol compound and an 30 inorganic microfine particle,

which comprises a step of subjecting hydrolysis and condensation of an alkoxide compound and/or a carboxylic acid salt compound in a solution containing a reactant material for the polyphenol compound.

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10. A curable fire retardant resin composition comprising, as essential components, the fire retardant resin composition according to Claim 1, 2, 3, 4, 5, 6, or 7 and a compound having at least two glycidyl groups.

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11. A semiconductor encapsulating material comprising, as essential components, the fire retardant resin composition according to Claim 1, 2, 3, 4, 5, 6, or 7 and a compound having at least two glycidyl groups.

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12. A wiring board insulation material comprising, as essential components, the fire retardant resin composition according to Claim 1, 2, 3, 4, 5, 6, or 7 and a compound having at least two glycidyl groups.

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13. A shaped article obtainable by curing the curable fire retardant resin composition according to Claim 10.

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14. A semiconductor device obtainable by sealing with, and curing of, the semiconductor encapsulating material according to Claim 11.

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15. An electric wiring board obtainable by curing of the wiring board insulation material according to Claim 12.

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16. A silica which has not more than 3.0 cal/g of exotherm per unit mass thereof as observed in differential scanning calorimetry and/or differential thermal analysis in an air stream at 100°C to 400°C, and

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has not less than 0.001 nor more than 2.0 of an integral intensity ratio A_{Q3}/A_{Q4} obtainable by splitting a peak situated in the range of -120 to -80 ppm in ^{29}Si -DD/MAS-NMR spectrometry into a Q³ silica component and a Q⁴

silica component.